

## CLAIMS

What is claimed is:

1. A method of forming adjacent layers of materials on a substrate, comprising:
  - 5 providing a first solution comprising a first material that is a water-soluble cationic conjugated polymer and a first solvent;
  - providing a second solution comprising a second material and a second solvent;
  - depositing a first layer of one of said first and second solutions onto a
  - 10 substrate;
  - depositing a second layer of the other of said first and second solutions onto the first layer;
  - wherein the material deposited in the first layer does not dissolve in the solvent deposited in the second layer.
- 15 2. The method of claim 1, wherein the first solvent comprises water.
3. The method of claim 1, wherein the first solution comprises a detergent.
4. The method of claim 1, wherein depositing the first solution onto the substrate comprises spin-casting.
5. The method of claim 1, wherein the substrate is a film.
- 20 6. A method of adding a polymer layer to a substrate, comprising:
  - providing a first solution of a cationic water-soluble conjugated polymer in a solvent;
  - providing a substrate comprising a material not soluble in the solvent;
  - depositing the first solution on the substrate.
- 25 7. The method of claim 6, wherein the solvent comprises water.

8. The method of claim 6, wherein depositing the first solution onto the substrate comprises spin-casting.
9. The method of claim 6, wherein the substrate is a film.
10. A multilayer electronic device comprising a layer of a water-soluble cationic conjugated polymer.
11. The method of claim 1, wherein the substrate is rigid.
12. The method of claim 6, wherein the substrate is rigid.
13. A substrate comprising a polymeric layer produced by the method of claim 1.
14. An electrical component comprising the substrate of claim 13.
15. The electrical component of claim 14, wherein the component is selected from the group consisting of a laser, a photodiode, a light-emitting diode ("LED"), an optical interconnect, a transducer, a semiconductor chip, a semiconductor thin-film, and a polymeric photoswitch.
16. The electrical component of claim 15, wherein the component is a photodiode.
17. The electrical component of claim 15, wherein the component is a light-emitting diode (LED).
18. The electrical component of claim 15, wherein the component is a laser.
19. The electrical component of claim 15, wherein the component is a transducer.

20. The electrical component of claim 15, wherein the component is a polymeric photoswitch.